

REMARKS

Election/Restrictions

The Examiner subjected claims 1-8 to a restriction requirement. The Examiner stated that the application contains claims directed to the following patentably distinct inventions:

- I. Claims 1-7, drawn to methods of laser marking; and
- II. Claim 8, drawn to laser apparatus.

The Examiner required Applicant under 35 U.S.C. §121 to restrict the application to one of the above inventions.

The Examiner indicated that during a telephone conversation with attorney Stephen M. De Klerk on September 16, 2004, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-7. The Examiner further required affirmation of this election to be made by applicant in replying to this Office Action.

Applicant hereby affirms the election of Group I, and has accordingly cancelled claim 8, drawn to the invention of Group II.

35 U.S.C. §112 Rejections

The Examiner has rejected claims 1-6 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The Examiner stated that the last two lines of claim 1, neither "the data set" or "the reference position" have antecedent basis.

Claim 1 has been appropriately amended.

The Examiner also stated that in claim 5 neither "the vector set" nor "the difference" have antecedent basis in the base claim.

Claim 1 has been appropriately amended to include antecedent basis for "the difference," and claim 5 has been appropriately amended to include antecedent basis for "the vector set."

Claims 2, 4, and 6 are dependent on claim 1 and has been rendered definite by the amendments to claim 1.

Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 1-6 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

35 U.S.C. §103 Rejections

The Examiner has rejected claim 1 under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Mizutani.

AAPA teaches a conventional method and apparatus for laser marking articles with desired patterns before being shipped to a customer (Discussion of Related Art). A laser marker system usually has a frame, a laser, a galvo head, and an article holder, mounted to the frame. Factory calibration data is stored in the

memory of the galvo head. It has been found that factory calibration data is not always sufficiently accurate for all purposes, or may also "shift" over a period of time due to tolerances that creep into the frame or the holder. As such, the reference focal point of the laser beam is not at the position according to the factory calibration data, but instead at a new position. Thus a pattern marked on an article will be shifted from the position according to the factory calibration data to the new position. (Discussion of Related Art)

AAPA thus teaches a conventional system and method for laser marking articles with the problem of mis-calibration of the lasers. Specifically, AAPA does not teach or suggest calculating a difference between a reference position and a base position and marking a pattern based on the difference.

Mizutani teaches an alignment device to be used in manufacturing or inspecting of semiconductor devices or liquid crystal displays (Col. 1, lines 7-10). The alignment device includes an objective optical system, a first detection optical system, a second detection optical system, and a focus detection system (Col. 2, lines 40-55). The alignment device allows detection of a deviation of a first mark area with respect to the focal plane of the first detection optical system and the deviation of a second mark area with respect to the focal plane of the second detection optical system (Col 2, lines 60-65). Specifically, Mizutani does not teach or suggest calculating a difference between a reference position and a base position in marking a pattern based on the difference.

Claim 1 has been amended to include calculating a difference between a reference position and a base position in marking a pattern based on the difference. Specifically, claim 1 includes the limitations "calculating a difference between the reference position and a base position," and "a pattern being marked by the laser on the marking surface being based on a data set, the reference position, and the difference between the reference position and the base position."

Therefore, claim 1 is patentable over AAPA and Mizutani because claim 1 includes limitations that are not taught or suggested by AAPA and Mizutani. Furthermore, claim 1 has been amended in accordance with the Examiner's suggestion that claim 3 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant, accordingly, respectfully request withdrawal of the rejection of claim 1 under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Mizutani.

ALLOWABLE SUBJECT MATTER

Applicant has noted, with appreciation, that the Examiner indicated that claims 2-6 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and that claim 7 is allowed.

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen M. De Klerk at (408) 720-8300.


DEPOSIT ACCOUNT AUTHORIZATION

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,

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